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SEQUENCE LISTING

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DEC 12 2001

TECH CENTER 1600/2900

<110> Blundell, Tom L  
Abell, Christopher  
Inoue, Tsuyoshi  
von Delft, Frank

<120> Crystal Structure

<130> 620-139

<140> US 09/820,745

<141> 2001-03-30

<160> 12

<170> PatentIn Ver. 2.1

<210> 1

<211> 8

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Conserved  
sequence motif

<400> 1

Leu Val Gly Asp Ser Leu Gly Met  
1 5

<210> 2

<211> 6

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Conserved  
sequence motif

<400> 2

Val Lys Ile Glu Gly Gly  
1 5

<210> 3

<211> 8

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Conserved  
sequence motif

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2

<220>  
<221> SITE  
<222> (3)  
<223> Xaa is a hydrophobic residue

<400> 3  
Gly His Xaa Gly Leu Thr Pro Gln  
1 5

<210> 4  
<211> 7  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Conserved  
sequence motif

<400> 4  
Gly Gly Tyr Lys Val Gln Gly  
1 5

<210> 5  
<211> 6  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Conserved  
sequence motif

<400> 5  
Ile Gly Ile Gly Ala Gly  
1 5

<210> 6  
<211> 6  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Conserved  
sequence motif

<400> 6  
Asp Gly Asn Ile Leu Val  
1 5

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<210> 7  
<211> 264  
<212> PRT  
<213> Escherichia coli

<400> 7  
Met Lys Pro Thr Thr Ile Ser Leu Leu Gln Lys Tyr Lys Gln Asp Lys  
1 5 10 15  
Lys Arg Phe Ala Thr Ile Thr Ala Tyr Asp Tyr Ser Phe Ala Lys Leu  
20 25 30  
Phe Ala Asp Glu Gly Leu Asn Val Met Leu Val Gly Asp Ser Leu Gly  
35 40 45  
Met Thr Val Gln Gly His Asp Ser Thr Leu Pro Val Thr Val Ala Asp  
50 55 60  
Ile Ala Tyr His Thr Ala Ala Val Arg Arg Gly Ala Pro Asn Cys Leu  
65 70 75 80  
Leu Leu Ala Asp Leu Pro Phe Met Ala Tyr Ala Thr Pro Glu Gln Ala  
85 90 95  
Phe Glu Asn Ala Ala Thr Val Met Arg Ala Gly Ala Asn Met Val Lys  
100 105 110  
Ile Glu Gly Gly Glu Trp Leu Val Glu Thr Val Gln Met Leu Thr Glu  
115 120 125  
Arg Ala Val Pro Val Cys Gly His Leu Gly Leu Thr Pro Gln Ser Val  
130 135 140  
Asn Ile Phe Gly Gly Tyr Lys Val Gln Gly Arg Gly Asp Glu Ala Gly  
145 150 155 160  
Asp Gln Leu Leu Ser Asp Ala Leu Ala Leu Glu Ala Ala Gly Ala Gln  
165 170 175  
Leu Leu Val Leu Glu Cys Val Pro Val Glu Leu Ala Lys Arg Ile Thr  
180 185 190  
Glu Ala Leu Ala Ile Pro Val Ile Gly Ile Gly Ala Gly Asn Val Thr  
195 200 205  
Asp Gly Gln Ile Leu Val Met His Asp Ala Phe Gly Ile Thr Gly Gly  
210 215 220  
His Ile Pro Lys Phe Ala Lys Asn Phe Leu Ala Glu Thr Gly Asp Ile  
225 230 235 240  
Arg Ala Ala Val Arg Gln Tyr Met Ala Glu Val Glu Ser Gly Val Tyr  
245 250 255  
Pro Gly Glu Glu His Ser Phe His  
260

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<210> 8  
 <211> 267  
 <212> PRT  
 <213> Schizosaccharomyces pombe

<400> 8  
 Met Ser Leu Lys Gln Ile Thr Ile Ser Thr Leu Arg Gln Trp Lys Leu  
     1                    5                    10                    15  
 Ala Asn Lys Lys Phe Ala Cys Ile Thr Ala Tyr Asp Ala Ser Phe Ser  
           20                    25                    30  
 Arg Leu Phe Ala Glu Gln Gly Met Pro Val Met Leu Val Gly Asp Ser  
           35                    40                    45  
 Leu Gly Met Thr Ala Gln Gly His Ser Thr Thr Leu Pro Val Ser Val  
           50                    55                    60  
 Glu Asp Ile Ala Tyr His Thr Lys Ser Val Arg Arg Gly Ala Pro Asn  
           65                    70                    75                    80  
 Arg Leu Leu Met Ala Asp Leu Pro Phe Met Ser Tyr Ser Thr Trp Glu  
                     85                    90                    95  
 Asp Ala Cys Lys Asn Ala Ala Thr Val Met Arg Ala Gly Ala Asn Ile  
                     100                    105                    110  
 Val Lys Ile Glu Gly Gly Gly Asn Trp Ile Phe Glu Ile Val Gln Arg  
           115                    120                    125  
 Leu Thr Glu Arg Ser Val Pro Val Ala Gly His Leu Gly Leu Thr Pro  
           130                    135                    140  
 Gln Ser Val Asn Ile Phe Gly Gly Tyr Lys Ile Gln Gly Arg Glu Gln  
           145                    150                    155                    160  
 Ser Ala Ala Ala Arg Leu Ile Glu Asn Ala Gln Gln Leu Glu Lys Phe  
                     165                    170                    175  
 Gly Ala Gln Leu Leu Val Leu Glu Cys Ile Pro Glu Ser Leu Ala Glu  
           180                    185                    190  
 Gln Ile Thr Lys Thr Ile Ser Ile Pro Thr Ile Gly Ile Gly Ala Gly  
           195                    200                    205  
 Lys His Thr Asp Gly Gln Ile Leu Val Met His Asp Ala Leu Gly Ile  
           210                    215                    220  
 Thr Gly Gly Arg Pro Pro Lys Phe Ala Lys Asn Phe Leu Ser Gly Ala  
           225                    230                    235                    240  
 Gly Asp Ile Arg Thr Ala Ile Gln Arg Tyr Ile Tyr Glu Val Glu Gln  
                     245                    250                    255  
 Gly Leu Tyr Pro Ala Glu Glu His Ser Phe Gln  
                     260                    265

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<210> 9  
 <211> 349  
 <212> PRT  
 <213> Aspergillus nidulans

<400> 9  
 Met Thr Phe Leu Arg Ile Ala Thr Lys Arg Ala Ile Tyr Leu His Arg  
 1 5 10 15  
 Pro Ala Asn Pro Ala Leu Pro Thr Ser Ser Ile Leu Pro Val Leu His  
 20 25 30  
 Ser Thr Asn Val Ala Thr Arg Val Pro Ser Pro Cys Ala Ile Arg His  
 35 40 45  
 Ser Ser His Ser Pro Leu Gly Ala Ala Gln Ala Asn Pro Arg Lys Lys  
 50 55 60  
 Val Thr Met Gln Thr Leu Arg Asn Leu Tyr Lys Lys Gly Glu Pro Ile  
 65 70 75 80  
 Thr Met Leu Thr Ala His Asp Phe Pro Ser Ala His Val Ala Asp Ala  
 85 90 95  
 Ala Gly Met Asp Met Ile Leu Val Gly Asp Ser Leu Ala Met Val Ala  
 100 105 110  
 Leu Gly Met Gln Asp Thr Ser Glu Val Thr Leu Asp Asp Met Leu Val  
 115 120 125  
 His Cys Arg Ser Val Ala Arg Ala Ala Gln Ser Ala Phe Thr Val Ser  
 130 135 140  
 Asp Leu Pro Met Gly Ser Tyr Glu Val Ser Pro Glu Gln Ala Leu Gln  
 145 150 155 160  
 Ser Ala Ile Arg Ile Val Lys Glu Gly Arg Val Gln Gly Val Lys Leu  
 165 170 175  
 Glu Gly Gly Glu Glu Met Ala Pro Ala Ile Lys Arg Ile Thr Thr Ala  
 180 185 190  
 Gly Ile Pro Val Val Gly His Ile Gly Leu Thr Pro Gln Arg Gln Asn  
 195 200 205  
 Ala Leu Gly Gly Phe Arg Val Gln Gly Lys Ser Thr Thr Asp Ala Leu  
 210 215 220  
 Lys Leu Leu Lys Asp Ala Leu Ala Val Gln Glu Ala Gly Ala Phe Met  
 225 230 235 240  
 Ile Val Ile Glu Ala Val Pro Pro Glu Ile Ala Ser Ile Val Thr Gln  
 245 250 255  
 Lys Leu Ser Val Pro Thr Ile Gly Ile Gly Ala Gly Asn Gly Cys Ser  
 260 265 270

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Gly Gln Val Leu Val Gln Ile Asp Met Thr Gly Asn Phe Pro Pro Gly  
275 280 285

Arg Phe Leu Pro Lys Phe Val Lys Gln Tyr Ala Asn Val Trp Asn Glu  
290 295 300

Ala Leu Gln Gly Ile Gln Gln Tyr Arg Glu Glu Val Lys Ser Arg Ala  
305 310 315 320

Tyr Pro Ala Glu Gln His Thr Tyr Pro Ile Pro Lys Glu Glu Leu Val  
325 330 335

Glu Phe Gln Lys Ala Val Asp Glu Leu Pro Glu Glu Lys  
340 345

<210> 10

<211> 347

<212> PRT

<213> Arabidopsis thaliana

<400> 10

Met Ala Ser Ser Leu Thr Arg Asn Cys Ser Arg Phe Ser Lys Ala Ile  
1 5 10 15

Ser Val Arg Phe Met Ser Asn Leu Pro Glu Asn Thr Val Tyr Gly Gly  
20 25 30

Pro Lys Pro Gln Asn Pro Asn Gln Arg Val Thr Leu Thr His Leu Arg  
35 40 45

Gln Lys His Arg Arg Gly Glu Pro Ile Thr Val Val Thr Ala Tyr Asp  
50 55 60

Tyr Pro Ser Ala Val His Leu Asp Thr Ala Gly Ile Asp Val Cys Leu  
65 70 75 80

Val Gly Asp Ser Ala Ser Met Val Val His Gly His Asp Thr Thr Leu  
85 90 95

Pro Ile Ser Leu Asp Glu Met Leu Val His Cys Arg Ala Val Ala Arg  
100 105 110

Gly Ala Lys Arg Pro Leu Leu Val Gly Asp Leu Pro Phe Gly Thr Tyr  
115 120 125

Glu Ser Ser Ser Ser Gln Ala Val Asp Thr Ala Val Arg Val Leu Lys  
130 135 140

Glu Gly Gly Met Asp Ala Ile Lys Leu Glu Gly Gly Ser Ala Ser Arg  
145 150 155 160

Ile Thr Ala Ala Lys Ala Ile Val Glu Ala Gly Ile Ala Val Ile Gly  
165 170 175

His Val Gly Leu Thr Pro Gln Ala Ile Ser Val Leu Gly Gly Phe Arg  
180 185 190

Pro Gln Gly Arg Asn Ile Ala Ser Ala Val Lys Val Val Glu Thr Ala  
195 200 205

Met Ala Leu Gln Glu Ala Gly Cys Phe Ser Val Val Leu Glu Cys Val  
210 215 220

Pro Pro Pro Val Ala Ala Ala Ala Thr Ser Ala Leu Lys Ile Pro Thr  
225 230 235 240

Ile Gly Ile Gly Ala Gly Pro Phe Cys Ser Gly Gln Val Leu Val Tyr  
245 250 255

His Asp Leu Leu Gly Met Met Gln His Pro His His Ala Lys Val Thr  
260 265 270

Pro Lys Phe Cys Lys Gln Tyr Ala Asn Val Gly Glu Val Ile Asn Lys  
275 280 285

Ala Leu Met Glu Tyr Lys Glu Glu Val Ser Lys Lys Val Phe Pro Gly  
290 295 300

Pro Ser His Ser Pro Tyr Lys Ile Thr Ala Ser Glu Leu Asp Gly Phe  
305 310 315 320

Leu Thr Glu Leu Gln Lys Leu Gly Phe Asp Lys Ala Ala Ser Ala Ala  
325 330 335

Ala Leu Ala Ala Glu Asn Met Glu Pro Ser Lys  
340 345

<210> 11

<211> 312

<212> PRT

<213> *Saccharomyces cerevisiae*

<400> 11

Met Asn Ile Met Lys Arg Gln Leu Cys Thr Ser Ser Lys Arg Phe Phe  
1 5 10 15

Ser Thr Ala Lys Asn Val Val Lys Tyr Asn Thr Ile Gln Asp Ile Arg  
20 25 30

Asn Lys Tyr Phe Thr Gly Thr Pro Leu Ser Met Cys Thr Ala Tyr Asp  
35 40 45

Phe Ile Thr Ala Thr Trp Val Asn Lys Ala Asn Cys Asp Leu Leu Leu  
50 55 60

Val Gly Asp Ser Leu Ala Met Thr Ser Leu Gly Tyr Asp Ser Thr Ile  
65 70 75 80

Thr Leu Ser Leu Asn Glu Phe Lys Tyr His Val Ala Ser Val Cys Arg  
85 90 95

Ala Glu Gly Ser Ser Met Val Val Val Asp Met Pro Phe Gly Thr Phe  
100 105 110

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Glu Ser Gly Ile Ser Asp Gly Leu Lys Asn Ala Ile Asp Ile Met Lys  
 115 120 125

Leu Asp Ser Lys Val Thr Ser Val Lys Val Glu Val Gly Ser Tyr Thr  
 130 135 140

Lys Asp Lys Tyr Ala Met Lys Phe Ile Glu Glu Leu Cys Ser Arg Gly  
 145 150 155 160

Ile Pro Val Met Ala His Ile Gly Leu Thr Pro Gln Lys Val His Ser  
 165 170 175

Leu Gly Gly Tyr Lys Val Gln Gly Ser Lys Ser Leu Leu Gln Met Gln  
 180 185 190

Glu Leu Tyr Glu Thr Ala Met Gln Leu Gln Lys Ile Gly Cys Trp Ser  
 195 200 205

Ile Leu Ile Glu Cys Val Pro His Lys Met Ala Gln Phe Ile Thr Ser  
 210 215 220

Lys Leu Ser Val Pro Thr Ile Gly Ile Gly Ala Gly Asn Gly Thr Ser  
 225 230 235 240

Gly Gln Val Leu Val Ile Ser Asp Leu Leu Gly Met Gln Gly Asp Ser  
 245 250 255

Val Pro Lys Phe Val Lys Gln Ala Val Asn Met Thr Asp Ile Ala Thr  
 260 265 270

Gln Gly Leu Lys Glu Tyr Ile Ala Ser Val Glu Asp Arg Thr Phe Pro  
 275 280 285

Glu Arg Gly Thr His Thr Phe Lys Val Lys Glu Asp Leu Trp Asn Glu  
 290 295 300

Phe Leu Ser Ser Ile Asn Glu Lys  
 305 310

<210> 12

<211> 281

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Consensus

<220>

<221> SITE

<222> 1..4, 6..8, 10..22, 27..29, 31..39, 41, 50..52, 54..56

<223> Xaa is uncertain

<220>

<221> SITE

<222> 59, 62..64, 66, 67, 69..71, 73, 76..81, 83, 88, 89

<223> Xaa is uncertain



9

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<400> 12
Xaa Xaa Xaa Xaa Thr Xaa Xaa Xaa Leu Xaa Xaa Xaa Xaa Xaa Xaa Xaa
  1                      5                      10                      15

Xaa Xaa Xaa Xaa Xaa Xaa Thr Ala Tyr Asp Xaa Xaa Xaa Ala Xaa Xaa
      20                      25                      30

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Val Xaa Leu Val Gly Asp Ser Leu Gly
      35                      40                      45

Met Xaa Xaa Xaa Gly Xaa Xaa Xaa Thr Leu Xaa Val Thr Xaa Xaa Xaa
  50                      55                      60

Ile Xaa Xaa His Xaa Xaa Xaa Val Xaa Arg Gly Xaa Xaa Xaa Xaa Xaa
  65                      70                      75                      80

Xaa Leu Xaa Asp Leu Pro Phe Xaa Xaa Tyr Xaa Xaa Xaa Xaa Xaa Xaa
      85                      90                      95

Ala Xaa Xaa Xaa Ala Xaa Xaa Val Xaa Xaa Xaa Xaa Ala Xaa Xaa Xaa
      100                      105                      110

Xaa Val Lys Ile Glu Gly Gly Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
      115                      120                      125

Xaa Xaa Xaa Xaa Xaa Leu Xaa Xaa Xaa Xaa Val Xaa Val Xaa Gly His
      130                      135                      140

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Xaa Gly Leu Thr Pro Gln Xaa Xaa Xaa Xaa Xaa Gly Gly Tyr Lys Val  
 145 150 155 160  
 Gln Gly Xaa Arg Xaa Xaa Xaa Xaa Xaa Xaa Xaa Leu Xaa Xaa Xaa Ala  
 165 170 175  
 Xaa Ala Xaa Xaa Xaa Ala Gly Ala Xaa Xaa Leu Val Leu Glu Xaa Val  
 180 185 190  
 Pro Xaa Xaa Leu Ala Xaa Xaa Xaa Thr Xaa Xaa Xaa Xaa Ile Pro Xaa  
 195 200 205  
 Ile Gly Ile Gly Ala Gly Xaa Xaa Xaa Asp Gly Gln Ile Leu Val Xaa  
 210 215 220  
 Xaa Asp Xaa Xaa Gly Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
 225 230 235 240  
 Xaa Xaa Pro Lys Phe Xaa Lys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
 245 250 255  
 Xaa Xaa Ala Xaa Xaa Xaa Tyr Xaa Xaa Xaa Val Xaa Xaa Xaa Xaa Tyr  
 260 265 270  
 Pro Xaa Xaa Xaa Xaa His Xaa Xaa Xaa  
 275 280